

## **REMARKS**

Applicant is in receipt of the Office Action mailed August 7, 2003. Claims 3, 4, 18, 21, and 22 have been cancelled. Claims 1, 5, 9, 10, 12, 14, 17, 19, 23, and 25 have been amended. Thus, claims 1, 2, 5-17, 19, and 23-25 remain pending in the case. Applicant respectfully requests further examination of the present case in light of the following remarks.

### **Section 112 Rejections**

The Office Action rejected claims 5, 9, 14, and 23 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has made the suggested changes to the respective claims to address the issues cited.

The Office Action also rejected claim 11 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the Office Action states that the term “user-drawn” is not defined by the claim, and that the specification does not provide a standard for ascertaining the requisite degree(?).

Applicant submits that the following paragraph from the Specification (p. 13, 4<sup>th</sup> paragraph) clearly indicates the intended meaning of the claim limitation:

“In one embodiment, the user may provide user input by “drawing” a desired step response on the display in step 302. In this embodiment, the method determines the appropriate parameters for the PID autotuning algorithm that would tune the PID controller to produce a “closest fit” to the step response drawn by the user, i.e., the method derives the value d, mentioned above, from a curve fit of the user-drawn step response.”

Applicant submits that user input “drawing” on a computer display, e.g., as in a paint application with a mouse, is well known in the art. Applicant further notes that the above paragraph clearly indicates that once the user has drawn the desired step response, the method in one embodiment derives the value d via a *curve fit* of the user-drawn step

response. In other words, the Specification clearly indicates that the user-drawn step response is a user-drawn curve, and that in one embodiment the parameter is derived from a curve fit of the user-drawn step response.

Thus, Applicant respectfully submits that the 112 rejection of claim 11 is improper.

### **Section 102 Rejections**

Claims 1-5, 7-8, 11-14, and 17-25 were rejected under 35 U.S.C. 102(e) as being anticipated by Gudaz et al (U.S. 6,510,353, "Gudaz"). Claims 3-4, 18, and 21- 22 have been cancelled, and so the rejection of those claims is rendered moot. Claim 1 (and the other independent claims) has been amended to include the limitations of claims 3 and 4. Applicant respectfully submits that claim 1 as presently amended is allowable for at least the reasons provided below.

Amended claim 1 recites:

1. (Currently Amended): A method for performing user controllable autotuning of a PID controller, the method comprising:

receiving user input indicating a desired characteristic of a PID controller autotuning algorithm;

configuring the PID controller autotuning algorithm in response to the user input indicating the desired characteristic, wherein said configuring produces a configured PID controller autotuning algorithm;

executing the configured PID controller autotuning algorithm to tune the PID controller;

wherein the user input indicating the desired characteristic indicates a desired operation of the PID controller after execution of the autotuning algorithm, and wherein the desired operation includes one or more of stiffness and response time.

The Office Action asserts that Gudaz teaches the limitation of (now cancelled) claim 4, "wherein the desired operation includes one or more of stiffness and response time", citing col. 9 of Gudaz. Applicant respectfully disagrees.

Gudaz describes a system and method for generating a robustness plot (gain margin vs. phase margin) for PID controllers, receiving user input specifying a robustness point in the robustness plot, and generating PID settings corresponding to the specified robustness point. More specifically, in the cited section (col. 9), Gudaz describes determining, via measurement and/or calculation, process characteristics such as ultimate gain, ultimate period, time delay, dominant time constant, etc., based on measured attributes of an induced oscillation of the system, and specifically does not teach or suggest receiving user input specifying *one or more of stiffness and response time*, and configuring the PID controller in accordance with the specified characteristic. In other words, in the system of Gudaz, the process characteristics are determined, i.e., measured or calculated, not specified by the user.

Thus, Applicant respectfully submits that amended claim 1, which includes the limitation of (now cancelled) claim 4 is allowable for at least the reasons given above, as are claims dependent thereon. Similarly, independent claims 12, 19, 23, and 25 also include substantially the same limitations as amended claim 1, and so these claims, as well as their respective dependent claims, are also allowable.

Thus, Applicant respectfully submits that claims 1, 2, 5, 7-8, 11-14, 17, 19, 20, and 23-25 patentably distinguish over Gudaz for at least the reasons given above.

### **Section 103 Rejections**

The Office Action rejected claims 6 and 15 under 35 U.S.C. 103(a) as being unpatentable over Gudaz in view of Kennedy et al (US 5,832,532, "Kennedy"), claims 9 and 16 under 35 U.S.C. 103(a) as being unpatentable over Gudaz in view of Molnar et al (US 5,734,597, "Molnar"), and claim 10 as being obvious over Gudaz. Applicant respectfully disagrees.

Applicant submits that while slider controls, command line interfaces, and Zeigler-Nichols equations are well known, the claims rejected under 35 U.S.C. 103(a) depend from respective independent claims that substantially include the limitations of amended claim 1, cited above. Applicant further submits that since none of the cited references teach or suggest the limitations of amended claim 1, that claims 6, 9, 10, 15, and 16 are allowable for at least the reasons provided above.

## CONCLUSION

In this Response, claims 3, 4, 18, 21, and 22 have been cancelled. Claims 1, 5, 9, 10, 12, 14, 17, 19, 23, and 25 have been amended. Rejection of claims 5, 9, 14, and 23 under 35 U.S.C. § 112, second paragraph, rejection of claims 1-5, 7-8, 11-14, and 17-25 under 35 U.S.C. § 102(e), and rejection of claims 6, 9, 10, 15, and 16 under 35 U.S.C. § 103(a) have been responded to. This response, therefore, constitutes a complete response to all issues raised in the Office Action mailed January 22, 2001. In view of the remarks traversing the rejections presented in the Office Action, pending claims are in condition for allowance. If the Examiner has any questions, comments, or suggestions, the undersigned attorney earnestly requests a telephone conference.


Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-51300/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

Respectfully submitted,



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Date: November 5, 2003